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ABSTRACT

This paper provides an overview of the literature evaluating the outcomes of adult correctional education programs. The goal was to identify research that assessed the effects of correctional education on inmates. The paper focused on four possible outcomes: (1) Do inmates who participated in education programs while incarcerated have lower recidivism rates than nonparticipants? (2) Are participants more likely than nonparticipants to enroll in educational programs upon release from incarceration? (3) Do participants have better employment records than nonparticipants after release? and (4) Do participants exhibit fewer disciplinary problems than nonparticipants while incarcerated? Adult education in prison could lead in two ways to a reduction in criminal behavior, to postrelease enrollment in education, to better postrelease employment history, and to fewer disciplinary problems. First, inmates could become more conscientious as a result of moral development due to exposure to the liberal arts. Second, inmates may benefit because they have better educational credentials upon release, which lead to more opportunities. The document distinguishes between academic, vocational, and social education. Some studies focus on the outcomes of participation in college education; others examine high school or below high school education. Other studies analyze the outcomes of educational programs for juveniles; some concentrate on programs for adults. The paper discusses separately the literature dealing with each of these programs. The discussion focuses on academic and vocational education for adults. The most common finding is that inmates exposed to education programs have lower recidivism rates than nonparticipants. (DK)

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# PRISON EDUCATION AND OFFENDER BEHAVIOR:

# A REVIEW OF THE SCIENTIFIC LITERATURE

July 1993

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Prison Education Research Project:

Report 1

SO 023 698

Submitted to the Windham School System
Texas Department of Criminal Justice—Institutional Division

The Prison Education Research Project is a cooperative research program of the Criminal Justice Center, Sam Houston State University, and the Windham School System of the Texas Department of Criminal Justice--Institutional Division. The purpose of the project is to assess the impact of prison-based education programs on offender behavior.


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# PRISON EDUCATION AND OFFENDER BEHAVIOR: A REVIEW OF THE SCIENTIFIC LITERATURE

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Prison Education Research Project:

Report 1

Jurg Gerber
Eric J. Fritsch

Submitted to the Windham School System
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## TABLE OF CONTENTS


Foreword ..... iv

Introduction ..... 1

Criteria for Selection and Evaluation ..... 2

Review of Literature ..... 3

- Adult Academic Education ..... 3
- Vocational Education ..... 10
- Social Education ..... 11

Discussion ..... 13

References ..... 14

Appendix ..... 18

## Foreword

The goal of this paper is to provide an overview of the literature evaluating the outcomes of adult correctional education programs. For this purpose we have made a thorough search of all available and relevant indexes (*Public Affairs Information Index, Criminal Justice Abstracts, Sociofile, ERIC, NCJRS,* and *MARCIVE*). In addition, we contacted the following agencies and offices for references and information:

- MGT of America, Inc. (consultant for Sharp 1992);
- Council of Planning Librarians (publisher of bibliographies on a variety of topics);
- Vance Bibliographies (publisher of bibliographies on a variety of topics);
- The Corrections Education Association;
- The Departments of Corrections of the states cited in Sharp (1992);
- Correctional Education School Authority, Tallahassee;
- Texas Criminal Justice Policy Council;
- Federal Bureau of Prisons;
- U.S. Department of Education, Office of Correctional Education;
- National Clearinghouse on Literacy Education.

We would like to thank Tim Flanagan, Dennis Longmire, Jim Marquart, Steve Cuvelier, Ken Adams, and Velmer Burton for their comments and suggestions on earlier versions of this review.

## Introduction

Correctional education programs have existed since the 1800s, but initially the programs focused on religious instruction. It was believed that rehabilitative efforts could be enhanced if the incarcerated offender sought spiritual enlightenment (Linden and Perry 1983). Not until the 1930s did educational programs begin to play a primary role in the rehabilitative process and to receive broad acceptance for their potential effect on offenders. These programs focused primarily on academic and vocational education. In the 1960s, postsecondary programs began to be offered in correctional settings (Linden and Perry 1983). Today correctional education programs are prevalent, but observers have questioned the impact of these programs on inmates, both during incarceration and upon release.

Writing about two decades ago, and after thoroughly reviewing 231 studies of prison programs aimed at rehabilitating inmates, Martinson concluded that

> *[w]ith few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism (1974 [1976]:25).*

This finding, which was picked up by the mass media (e.g., "Big Change in Prisons" 1975), was used by critics of prison programs to argue against rehabilitation as the primary justification for incarceration. Soon, however, Martinson's critics pointed out that he was premature in dismissing all forms of intervention. Although few programs can succeed in rehabilitating all inmates, more moderate successes may be possible:

> *Rather than ask, "What works--for offenders as a whole?" we must increasingly ask "Which methods work best for which types of offenders, and under what conditions or in what types of setting?" (Palmer 1976:150).*

Our goal is to identify research that assesses the effects of correctional education on inmates. We focus on the following possible outcomes:

- *Do inmates who participated in educational programs while incarcerated have lower recidivism rates than nonparticipants?*
- *Are participants more likely than nonparticipants to enroll in educational programs upon release from incarceration?*
- *Do participants have better employment records than nonparticipants after release?*
- *Do participants exhibit fewer disciplinary problems than nonparticipants while incarcerated?*

Adult education in prison could lead in two ways to a reduction in criminal behavior, to postrelease enrollment in education, to better postrelease employment history, and to fewer disciplinary problems. First, inmates could become more conscientious as a result of moral development due to exposure to the liberal arts (Gordon and Arbuthnot 1987). The following claim, for instance, concerns inmates' behavior in prison:

> *The prisons will benefit because intellectually challenged minds tend to maintain clean institutional records since the inmate, trained at a higher cognitive level, will acquire the ability to respond to situations intellectually and verbally rather than physically (O'Neil 1990:29).*

Second, and alternatively, inmates may benefit because they have better educational credentials upon release, which lead to more opportunities. Thus they suffer less strain (Merton 1938). These possibilities seem plausible, but must be supported by experience and observation. Although an education may have positive influences on an inmate upon release, extraneous variables also may affect these outcomes. These

variables include various social, psychological, and environmental factors.

### Criteria for Selection and Evaluation

Let us begin with some preliminary comments about the selection and evaluation of studies. First, evaluating any one prison program without regard for the social environment is bound to be problematic. On an abstract level it is fairly easy to identify single causes of behaviors, or at least to note influences, but reality is often quite complex. The success of a prison program is affected by many factors beyond its own characteristics. A case in point is provided by studying the causes of recidivism:

> *To measure the success of a program against the single variable of the absence of reconviction for a criminal act does not take into account the many other factors influencing an individual both during and after release. There appears to be a general agreement in the literature that factors such as the offender's previous life history, post-release family and other socio-economic connections, access to opportunity systems, physical and mental health, and a variety of other variables contribute substantially to his or her behavior upon release from incarceration . . . . Persons who have experienced correctional training may be favorably affected by the treatment only to have the good effects discounted by the fact that they are returned to the same family, the same neighborhood, and the same detrimental social groupings and influences which contributed to their antisocial behavior in the first place (Enocksson 1981:12).*

Second, determining the impact of any correctional intervention is complicated by the problem of self-selection. Usually it is impossible to assign subjects randomly to an experimental group (inmates participating in the treatment program) and a control group (inmates not included in the program). Therefore self-selection becomes an issue. For example, inmates who volunteer for vocational education may be more highly motivated than those who do not do so (see, for instance, Saylor and Gaes 1987). If these inmates are found to do better after they are released from custody (as shown by lower recidivism rates, for example), it is difficult to determine whether their postrelease success is due to their ambitions or to the success of the program in which they were involved. Unfortunately, many studies do not control for such biases.[1]

Third, research sometimes is conducted with very small samples, although statisticians argue that few meaningful statistical conclusions can be reached with samples of fewer than 30 individuals (e.g., Hamilton 1990). Our review does not include studies based on such small samples.

Fourth, the measurement of consequences and the length of follow-up period are important. For instance, recidivism can be measured by new arrests, new convictions, or new incarcerations. Similarly, former inmates may be followed for three months, six months, one year, or several years. As a general rule, the longer researchers follow subjects, the more confident we are in accepting their findings. Also, the more detail provided, the more accurately we can evaluate the precision of the research.

Fifth, hundreds of studies conducted in the United States and Canada focus on the outcomes of correctional education. Many of these studies were carried out by the correctional units responsible for administering the programs, and thus deal mainly with administrative and organizational aspects of the programs.

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[1]For an excellent example of a study whose authors control for this problem, see the various reports on the *Post Release Employment Project* (PREP) of the Federal Bureau of Prisons (Federal Bureau of Prisons 1985, especially pp. 9-12; Saylor and Gaes 1987, 1992).

Table 1. Selection and Evaluation Criteria for Studies Reviewed Here

Selection

*Empirical data*. Does the study report empirical data, or is it merely a "thought" piece? Generally, we omitted thought pieces.

Evaluation

*Control group*. Did the studies include control groups? Some studies reported only on an experimental group, that is, participants in an educational program--without including a comparison group of inmates who did not participate. We included a few such studies in our review because they are cited often in the literature, but generally we excluded them (see Babbie 1992 for a discussion of control groups).

*Matching vs. random assignment of subjects*. If control groups were used, did the researchers assign subjects randomly to control and experimental groups, did they match subjects, or did they simply compare participants in a program with nonparticipants? Statisticians consider random assignment best, matching second best, and simple comparisons of participants with nonparticipants least desirable (Hagan 1993; Kalton 1983), but our review of the literature shows that research constraints rarely allow for random assignment.

OR

*Statistical controls*. If the researchers did not assign subjects randomly to control and experimental groups, did they control statistically for background differences? As a rule, more faith can be placed in research that controls for some of the generally accepted correlates of successful postrelease adjustment: for example, prior convictions, age at first conviction, or opiate use (Pritchard 1979).

*Tests of statistical significance*. Are differences between experimental and control groups due to chance or are they statistically significant? Statisticians warn against the use of differences between samples unless it can be shown that they are not due to chance alone (Ott 1993).

Such studies may deal with the organizational structure of the educational system, personnel requirements, the number of students enrolled in various programs, or the number of graduates per program. These studies provide overviews of the particular programs, but they are not concerned primarily with *outcomes* of correctional education. Here we review only studies that deal specifically with outcomes.

In most instances we also limit our discussion to studies that report on independent and original research. With very few exceptions, we do not include articles in which the authors argue for or against a particular type of correctional education program without reporting an evaluation of an existing program.[2]

We selected and evaluated studies on the basis of the criteria listed in Table 1. We used these criteria to rate each study we reviewed. The most rigorous studies employed a control group, used some form of control (either matching, random assignment, or statistical controls), and included tests of statistical significance. We awarded studies one point for addressing each of these three issues; consequently the "methodology scores" range from 0 to 3. Tables 2, 3, and 4 display the results of each study and present our rating of their methodological adequacy.

## Review of Literature

The great variety of programs administered in prisons makes evaluation difficult, but we can distinguish between **academic, vocational**, and **social education**. Furthermore, some studies focus on the outcomes of participation in college education; others examine high school or below-high school education. Some studies analyze the outcomes of educational programs for juveniles; others concentrate on programs for adults. We will discuss separately the literature dealing with each of these programs. **Our discussion focuses on academic and vocational education for adults, which is the primary mission of the Windham School System:**

> *Over 75 percent of the inmates in the TDCJ --ID [Texas Department of Criminal Justice --Institutional Division] had less than a high school education. Nearly half (48 percent) of the inmate population performs below the sixth grade level on a standardized achievement test. In addition, the average unemployment rate for offenders in Texas is 47 percent according to a 1989 study compared to a state-wide rate among the general population of 6.2 percent for school year 1989-90. Therefore, the basic program of instruction offered the inmate population emphasizes literacy skills, GED preparation, and vocational training to enhance the probability of an inmate becoming gainfully employed upon release from prison (Windham School System, no date:2).*

For comparison, we also present findings from research on social education programs for adults, but we do not emphasize these findings. Social education programs focus primarily on providing inmates with "coping skills," as opposed to marketable skills or credentials. Also, we do not present research on intervention programs for juveniles because it does not pertain to adult correctional education.

### Adult Academic Education

*Basic and secondary education.* The research findings concerning basic and secondary education are fairly clear. A few researchers found no evidence that adult academic education has any positive effects on recidivism, but **the most common finding, shown in Table 2, is that inmates exposed to education programs have lower recidivism rates than nonparticipants.**

[2]See the appendix for a list of publications that we examined but did not include in this review.

Martinson (1974; also see Lipton, Martinson, and Wilks 1975) claimed to find no evidence of a relationship between adult academic education and lower recidivism rates. A close reading of Martinson's discussion, however, shows that the studies he cited do not support his conclusions. Martinson claimed that six studies analyzed this relationship and that three showed no correlation. Unfortunately, he failed to identify two of these studies.[3] Of the remaining three, he acknowledged that two (Saden 1962; Schnur 1948) *did* show a correlation between adult education and a reduction in recidivism; he dismissed the final study, Glaser (1964), as difficult to interpret.

The great majority of studies focusing on adult basic and secondary education show an inverse relationship between participation and recidivism. Anderson, Anderson, and Schumacker (1988:1-2) found in Illinois that "those who completed a GED/High School or higher, upon release, had a higher employment rate, lower unemployment rate, and lower criminal activity rate at twelve months than those releasees who had less than a GED" (also see Schumacker, Anderson, and Anderson 1990). Similarly, a study in Florida showed that among inmates released between 1986 and 1988, those who completed an academic program while in prison were much less likely to recidivate than members of the general prison population (Correctional Education School Authority 1990). In earlier studies in Delaware (Zink 1970) and in Ohio (Cochran 1965), participants in correctional education programs fared significantly better on release than did nonparticipants. More recently, studies in Alabama (Cogburn 1988) and in New York (New York State 1989, 1992) produced similar findings.[4]

Along somewhat different lines, Anderson (1981:22) found in Illinois that "parolees who were enrolled in academic course work while at the institution were significantly more likely to take vocational or further academic course work while on parole." Similar findings were discovered in Texas in a prison program titled "Reading to Reduce Recidivism." Nearly 75 percent of the participants in this program continued to participate in the community program after release, as compared with 15 to 20 percent of parolees in other programs. The success of the program was credited to the design of the prison program: it could be followed up easily in the community. With respect to recidivism, preliminary reports suggest that this program *may* be successful (State of Texas 1992).

Since Martinson's publication, however, we find few studies that show no correlation between prison education and recidivism. Johnson, Shearon, and Britton (1974), whose study was not included in Martinson's review, discovered that female inmates who earned the GED while in prison were no less likely to recidivate than inmates who did not participate in prison education. In a study conducted in Canada, Rogers (1980) found no differences in recidivism between inmates who participated in prison adult education and those who did not. Roundtree, Edwards, and Dawson (1982) studied the impact of education on male inmates' self-esteem. Although the authors implied that improvement in mathematical skills increased self-

[3]The study that Martinson identified, by Gearhart and associates (1967), deals more with vocational education than with academic education, and is discussed below.

[4]The correlation between adult secondary education and recidivism also has been observed among probationers. Walsh (1985) found that probationers participating in GED preparation programs were less likely than nonparticipants to be rearrested; if rearrested, they were less criminally involved (fewer and less serious crimes).

Table 2. Summary of Findings of Studies That Address Precollege Education

| Consequences | Author | Year | Relationship Found | Methodology Rating |
|---|---|---|---|---|
| Postrelease Recidivism | Anderson | 1981 | = | 3 |
| | Anderson, Anderson, and Schumacker | 1988 | + | 2 |
| | Cochran | 1965 | + | 3 |
| | Cogburn | 1988 | + | 1 |
| | Correctional Education School Authority | 1990 | + | 2 |
| | Johnson et al. | 1974 | = | 3 |
| | NYS, DOCS | 1989, 1992 | + | 3 |
| | Saden | 1962 | + | 2 |
| | Schnur | 1948 | + | 2 |
| | Schumacker, Anderson, and Anderson | 1990 | + | 2 |
| | Rogers | 1980 | = | ? |
| | Roundtree, Edwards, and Dawson | 1982 | = | 3 |
| | Zink | 1970 | + | 3 |
| Postrelease Employment | Anderson | 1981 | = | 3 |
| | Anderson, Anderson, and Schumacker | 1988 | + | 2 |
| | Correctional Education School Authority | 1990 | + | 2 |
| | Schumacker, Anderson, and Anderson | 1990 | + | 2 |
| Postrelease Participation in Education | Anderson | 1981 | + | 3 |
| | State of Texas | 1992 | + | 2 |

Explanation of Symbols:

| | |
|---|---|
| + | Relationship between correctional program and consequence is in the desirable direction. |
| - | Relationship between correctional program and consequence is in the undesirable direction. |
| = | No relationship between correctional program and consequence. |
| 0 | Methodologically weakest studies: no control group, statistical controls, or significance tests. |
| 1 | Research includes one of the above. |
| 2 | Research includes two of the above. |
| 3 | Methodologically strongest studies: research included all three of the above. |
| ? | Adequacy of research methodology cannot be ascertained. |

esteem, the results were not statistically significant.[5]

As Table 2 shows, the methodological adequacy of the studies did not systematically influence their outcomes. We reviewed seven recidivism studies that received a 3, our highest rating (the authors received one point each for using a control group, statistical controls, and tests of significance). Three of these studies (Anderson 1981; Johnson et al. 1974; Roundtree et al. 1982) revealed no correlation between education and recidivism; the remaining four (Cochran 1965; Cogburn 1988; New York State 1989, 1992) showed strong correlations.

Only one of the studies that merited a 3 for methodological rigor (Anderson 1981) focused on the correlation between precollege academic correctional education and (1) postrelease employment and (2) postrelease participation in education. Participation in correctional education did not increase the probability of success in postrelease employment, but it did lead to greater participation in education after release. Yet the other studies we found that focused on these two relationships generated consistent findings (i.e., inverse correlations between education and recidivism) and were relatively sound methodologically (each received a rating of 2). Therefore, we conclude, most empirical research indicates that precollege education leads to more favorable patterns of employment and postrelease education among participants.

At the same time, however, we found no research that focused on the relationship between precollege education and a reduction in disciplinary problems during incarceration.

*College education.* Like high school education, participation in college correctional programs is likely to produce benefits for inmates and (by implication) for society. Numerous studies have shown a clear and fairly consistent correlation between collegiate studies and recidivism, and between college and variables measuring personal growth. At the same time, some critics have pointed out methodological weaknesses in the research, and caution against overoptimistic interpretations:

> *Studies of the relationship between prison higher education and recidivism give mixed reviews of the impact of prison college programs on recidivism. Some of the studies are flawed by serious methodological problems. Control groups are sometimes not well-matched, sample sizes are often small, and "time at risk" often differs for the subjects in the research. Given a collection of studies of such disparate quality, the question of the efficacy of prison higher education remains (Lockwood 1991:188).*

Most studies report an inverse relationship between college education and recidivism. Reporting on a study of a prison program of the University of Victoria (British Columbia), Duguid (1981; also see Ayers et al. 1980) reported that only 14 percent of the inmates who participated in the program returned to prison within three years; the rate for nonparticipants was 51 percent. Furthermore, the former students "showed impressive sophistication in their thinking on law and politics, criminal behavior, and family relations" (Duguid 1981:65).

Inmates in Maryland who had earned at least 12 credits in a community college prison program were much less likely than nonstudents to recidivate (Blackburn 1981). Several studies conducted in New York State generated similar results. For instance, inmates who earned a college degree while incarcerated were less likely to recidivate, but, as the authors point out, their success may have been due only partly to their participation in college.

[5]For a recent review of literature that criticizes the presumed positive effects of education on correctional outcomes, see Jengeleski (1984).

These inmates also may have succeeded because they were "more motivated and/or competent than those who do not complete these programs . . . these same factors are related to their future adjustments on parole" (Thorpe, MacDonald, and Bala 1984:87). In another statewide study in New York, 26 percent of inmates who earned a college degree in 1986-1987 had been returned to state custody by February 1991; the corresponding figure for nongraduates was 45 percent (New York State 1991:1).[6]

In addition to these studies, research in Alabama found relative success with respect to recidivism (O'Neil 1990); studies conducted in Ohio revealed lower recidivism and better employment history upon release (Holloway and Moke 1986). Again, in Maryland, lower recidivism was the result of participation in a college education program (Hagerstown Junior College 1982; State of Maryland 1989). In Oklahoma, lower recidivism rates were observed, but inmates in education programs were not involved in fewer disciplinary actions than nonparticipants during their incarceration (Langenbach et al. 1990). In Wisconsin, college attendees were found generally to adjust better to parole conditions (Knepper 1990).

A few studies, however, found no support for the hypothesis that college education leads to reduction in recidivism and to other outcomes. In one Canadian study, researchers discovered no difference in recidivism rates between former students and other inmates, but reported, according to prison staff members, that

> *[p]rogram inmates had better disciplinary records than they had before starting school. Some administrators felt that the program had a stabilizing effect on the prison because of the commitment which the inmates had to make to their studies (Linden et al. 1984:72).*

At the same time, Gendreau and associates (1985) showed that participation in the University of Victoria program at Matsqui Penitentiary did not lead to improved disciplinary records among inmates. They dismiss this finding by arguing that the rate of misconduct in that particular prison is so low that any reduction cannot be statistically significant; instead, alternative measures of institutional adjustment should be used (e.g., the frequency of inmates' grievances). Similarly, in a study conducted in New York State, researchers found little support for the theory that college education reduces recidivism; indeed, persons with more than 60 college credits were *more* likely to be reincarcerated than those with fewer than 30 credits (Lockwood 1991).[7]

As in the case of precollege academic prison education, the methodological rigor of studies does not invariably predict the outcomes of the studies. As shown in Table 3, we gave six studies our highest methodology rating; of these six, four (Blackburn 1981; New York State 1991, 1992; O'Neil 1990) showed a strong inverse relationship between college education and recidivism, while two (Knepper 1990; Linden et al. 1984) showed no relationship. The findings thus are somewhat mixed, but the methodological weaknesses identified by critics cannot explain, in themselves, why some programs succeeded and others did not.

The available studies on the relationship between college education and postrelease employment and education are methodologically weak, but consistently show positive consequences for society. We recommend reserving

[6] For another, earlier study in New York State showing support for the recidivism hypothesis, see Wolf and Sylves (1981).

[7] According to the author, this research proves that education does not lead to an increase in inmates' moral development--at least, not enough to prevent recidivism.

Table 3. Summary of Findings of Studies That Address College Education

| Consequences | Author | Year | Relationship Found | Methodology Rating |
|---|---|---|---|---|
| Postrelease Recidivism | Ayers et al. | 1980 | + | ? |
| | Blackburn | 1981 | + | 3 |
| | Duguid | 1981 | + | ? |
| | Hagerstown Junior College | 1982 | + | 1 |
| | Holloway and Moke | 1986 | + | 2 |
| | Knepper | 1990 | = | 3 |
| | Langenbach et al. | 1990 | + | 3 |
| | Linden et al. | 1984 | = | 3 |
| | Lockwood | 1991 | = | 2 |
| | NYS, DOCS | 1991 | + | 2 |
| | NYS, DOCS | 1992 | + | 3 |
| | O'Neil | 1990 | + | 3 |
| | Thorpe et al. | 1984 | + | 2 |
| | Wolf and Sylves | 1981 | = | 0 |
| Postrelease Employment | Duguid | 1981 | + | ? |
| | Holloway and Moke | 1986 | + | 2 |
| | Wolf and Sylves | 1981 | + | 0 |
| Disciplinary Problems | Gendreau et al. | 1985 | = | 2 |
| | Langenbach et al. | 1990 | = | 3 |
| | Linden et al. | 1984 | + | 3 |
| Postrelease Participation in Education | Duguid | 1981 | + | ? |
| | Wolf and Sylves | 1981 | + | 0 |

Explanation of Symbols:

+ Relationship between correctional program and consequence is in the desirable direction.
- Relationship between correctional program and consequence is in the undesirable direction.
= No relationship between correctional program and consequence.
0 Methodologically weakest studies: no control group, statistical controls, or significance tests.
1 Research includes one of the above.
2 Research includes two of the above.
3 Methodologically strongest studies: research included all three of the above.
? Adequacy of research methodology cannot be ascertained.

judgment on these two outcomes until more rigorous studies are conducted.

No definite conclusions can be drawn concerning the relationship between correctional participation in college programs and prerelease disciplinary problems. Of the three studies we found on this subject, two were methodologically sound but generated contradictory findings. Linden et al. (1984) showed the expected inverse correlation; Langenbach et al. (1990) disclosed no correlation between enrollment in prison-based college programs and prisoners' misconduct.

**Vocational Education**

In his "nothing works" article, Martinson (1974) claimed that vocational education produces no positive consequences. Again, however, his conclusion was based on little evidence. Indeed, in the single study discussed by Martinson that addresses the issue most directly, Gearhart and associates (1967), found a correlation between vocational training and lower recidivism but only "when a trainee succeeded in finding a job related to his area of training" (Martinson 1974:13). Martinson interprets this finding as evidence that "skill development programs fail because what they teach bears so little relationship to an offender's subsequent life outside prison" (1974:13).

Most of the research conducted in recent years shows a correlation between vocational training and a variety of outcomes generally considered positive for either society or correctional institutions: lower recidivism rates, lower parole revocation rates, better postrelease employment patterns, and better institutional disciplinary records. Studying determinants of parole success in a midwestern state, Anderson and associates (1991) showed that among several other factors, participation in academic and vocational programs was correlated positively with successful parole. These researchers (Schumacker, Anderson, and Anderson 1990) also found that "completers" of vocational programs had better employment rates and fewer arrests than noncompleters. In an earlier study, Anderson (1981) found that vocational training leads to longer postrelease employment, fewer arrests, and fewer parole revocations.

Alston (1981) studied the impact of vocational programs in Texas, and found evidence for lower recidivism rates among inmates who participated. Participants also broke fewer rules while incarcerated, a finding that Alston explains as the result of "more positive impulse control" (1981:9). Saylor and Gaes (1992) reported very similar findings in research on federal penitentiaries: inmates who received vocational training while in prison showed "better institutional adjustment" (fewer rule violations) than those who did not receive such training, were more likely to complete stays in a halfway house, were less likely to have their paroles revoked, and were more likely to be employed.

Three other studies, however, contradict these findings. In a study involving inmates released from correctional facilities in Oklahoma, graduates of vocational programs recidivated sooner than members of the control group, namely inmates who did not participate in any of the programs (Davis and Chown 1986). Unfortunately, the authors did not report results of statistical significance tests.

Downes, Monaco, and Schreiber (1989) and Markley, Flynn, and Bercaw-Dooen (1983) conducted similar studies, but they, unlike Davis and Chown, made statistical tests to determine the significance of differences between groups. Furthermore, the study by Markley and associates is noteworthy because their control and experimental groups were more closely matched than those in many other studies. Their experimental group included inmates

Table 4. Summary of Findings of Studies That Address Vocational Education

| Consequences | Author | Year | Relationship Found | Methodology Rating |
|---|---|---|---|---|
| Postrelease Recidivism | Alston | 1981 | + | 1 |
| | Anderson | 1981 | + | 3 |
| | Anderson, Anderson, and Schumacker | 1988 | + | 2 |
| | Anderson, Schumacker, and Anderson | 1991 | + | 3 |
| | Cochran | 1965 | + | 3 |
| | Cogburn | 1988 | + | 1 |
| | Correctional Education School Authority | 1990 | + | 2 |
| | Davis and Chown | 1986 | - | 1 |
| | Downes et al. | 1989 | = | 3 |
| | Gearhart et al. | 1967 | + | ? |
| | Markley et al. | 1983 | = | 3 |
| | Saylor and Gaes | 1992 | + | 3 |
| | Schumacker, Anderson, and Anderson | 1990 | + | 2 |
| Postrelease Employment | Anderson | 1981 | + | 3 |
| | Anderson, Anderson, and Schumacker | 1988 | + | 2 |
| | Correctional Education School Authority | 1990 | + | 2 |
| | Downes et al. | 1989 | - | 3 |
| | Markley et al. | 1983 | = | 3 |
| | Saylor and Gaes | 1992 | + | 3 |
| | Schumacker, Anderson, and Anderson | 1990 | + | 2 |
| Disciplinary Problems | Alston | 1981 | + | 1 |
| | Saylor and Gaes | 1992 | + | 3 |

Explanation of Symbols:

+ Relationship between correctional program and consequence is in the desirable direction.
- Relationship between correctional program and consequence is in the undesirable direction.
= No relationship between correctional program and consequence.
0 Methodologically weakest studies: no control group, statistical controls, or significance tests.
1 Research includes one of the above.
2 Research includes two of the above.
3 Methodologically strongest studies: research included all three of the above.
? Adequacy of research methodology cannot be ascertained.

who completed at least three-fourths of the skills training program for which they were selected; the control group consisted of inmates who had been selected for training but could not participate because not enough training slots were available. By using such inmates for the control group, the authors were able to control more precisely for differences in the study participants' backgrounds. In this way they eliminated some of the competing factors that could affect the outcome of the research. They found that vocational-technical training did not increase postrelease employment success, nor did it reduce recidivism rates. Furthermore, they found that only 40 percent of the training participants found work related to their training.

In sum, most of these studies indicate reductions in rates of recidivism, better employment histories, and fewer disciplinary problems among inmates who receive vocational training, but at least two recent and well-designed studies show that training does not produce these results. It is conceivable that in the future, all methodologically rigorous studies will find support for the latter finding. Such an outcome, however, is highly unlikely: We found several recent studies of sound design that revealed strong inverse correlations between participation in vocational education and the various outcomes. Anderson (1981) received our highest rating and showed a decrease in recidivism, as did Cochran (1965) and Anderson, Schumacker, and Anderson (1991) (see Table 4). Similarly, Saylor and Gaes (1992) found better postrelease employment patterns and fewer prerelease disciplinary problems among vocational trainees.

We found no studies focusing on vocational education and postrelease participation in education. Research on this issue is needed.

**Social Education**

Some educational programs in correctional institutions deal with the acquisition of skills that sometimes are called "life skills" and that fall under the heading of "social education." Although social education is defined in various ways (and many different skills are included under "life skills"), advocates of such programs agree that inmates are deficient in the skills needed for coping with daily stresses:

> *Social education as we define it is an organized effort to furnish factual information to the individual in those areas of social and emotional interaction in which his past faulty attitudes have caused him difficulty and to suggest methods by which he can effect a more satisfying and socially acceptable way of living (Baker 1973:241).*

Inmates must be taught these skills in order to adjust to the pressures of life after release; if they do not acquire these skills, recidivism will result (Burchard and Lane 1982).

A few studies examine the relationship between education in social skills and various outcomes. Marshall, Turner, and Barbaree (1989) show that inmates who received training in problem-solving skills, assertiveness and interpersonal functioning, and practical skills in living developed greater self-esteem, became more assertive, less concerned about being evaluated negatively, and more socially skilled. Furthermore, these researchers reported that the programs made participants more empathetic and reduced psychopathy. No data were available, however, to allow us to determine whether these changes led to lower recidivism rates upon release.

Moral development, say some observers, is related to development of social skills. According to this argument, inmates must be encouraged in moral development in order to reduce recidivism; in this way they learn to make moral rather than hedonistic

decisions (Duguid 1986; Fox 1989; Michalek 1988; Tope and Warthan 1986). Unfortunately, most of the available writing on this topic is based more on reasoning than on research. An argument for this training can be made on logical grounds, but opposing arguments are easily constructed (Minahan 1990). According to research conducted in Canada, however, inmates who were exposed to the Living Skills program of the Correctional Service of Canada adjust to life after release better than other inmates.[8]

Finally, Hamm (1991) reported some encouraging results from a prison intervention program aimed at reducing violence against women. Men who had committed such acts of violence participated in a program whose purpose was to teach that "women must not, under any circumstance, become the victims of violence" (Hamm 1991:67). Hamm reports that 80 percent of the graduates of this program were not rearrested during the 18-month period following their release; unfortunately, however, his study did not include a control group of abusers who were not exposed to the program.

## Discussion

In an overview of the effectiveness of prison education programs, Linden and Perry (1983) pointed out that the 1950s and 1960s were a period of optimism, whereas the 1970s were characterized by Martinson's assessment that nothing works. On the basis of an additional decade of research, they argued that prison education can produce desirable results:

> *Most evaluations have shown that inmates make substantial improvements in learning, but this does not necessarily have an impact on rates of post-release employment and recidivism. The review of the literature suggests that programs will be most likely to succeed if they are intensive, if they can establish an alternative community within the prison, and if they offer post-release services to inmates (Linden and Perry 1983:43).*

Our own assessment, based on yet another decade of research, is quite similar. Numerous studies show a correlation between participation in correctional education and various outcomes. Furthermore, even though the methodologically less rigorous studies (e.g., those without control groups or with inadequate matches between control and experimental subjects) are likely to show a correlation, there also exist enough scientifically sound studies to make us confident that these positive findings are not statistical artifacts.

Drawing from Linden and Perry's (1983) review of the literature, from Rice and associates' (1980) review of 10 successful correctional vocational programs, and from our own review, we can identify several factors that explain why some programs are more successful than others in achieving their stated goals:

- *The more extensive the educational program, the more likely it is to achieve its stated objectives. For instance, research in New York State showed that inmates who earned the GED were less likely to recidivate than those who attended GED classes but did not earn the diploma (New York State 1989).*
- *Programs that are separate from the rest of the prison are more likely to succeed. "Successful programs had a designated area for providing vocational education and only vocational education" (Rice et al. 1980:12; emphasis in original).*
- *Programs that provide follow-up after release are more likely to succeed. With respect to vocational education, "successful programs had*

[8]Numerous articles, reports, and books have been published on this research. For an overview consult Fabiano (1991), Ross and Fabiano (1985), and Ross, Fabiano, and Ross (1988).

*systematic procedures for providing placement services that emphasized employer contact" (Rice et al. 1980:12).*

- *Programs that are successful in attracting an appropriate audience are more likely to achieve their intended objectives. For instance, the "Reading to Reduce Recidivism" program in Texas was hampered because it was designed for inmates who would serve short sentences and would be released quickly into the community, whereas the median sentence served by program participants was 15 years (State of Texas 1992).*
- *With respect to vocational education, programs that provide skills relevant to the contemporary job market are more likely to achieve their stated objectives. Administrators claim that their programs offer inmates "salable skills which will enhance their probability of obtaining and maintaining employment in the free world" (Windham School System, no date:12), but critics often maintain that vocational training programs fail because "what they teach bears so little relationship to an offender's subsequent life outside of prison" (Martinson 1976:13).*

As we explained earlier in this report, it is probably unrealistic to expect prison education to offset all social and psychological reasons for recidivating, for being unable to find or keep a job, for not continuing educational progress after release, or for having disciplinary problems in prison. In an overview of 71 studies that analyzed predictors of recidivism, Pritchard found that

> *[a]n offense of auto theft, the presence of prior convictions, stability of employment, age at first arrest, living arrangements, current income, history of opiate use, and history of alcohol abuse appear to be the most stable predictors of recidivism (1979:19).*

These findings are supported by a 1991 study of recidivism patterns conducted by the Texas Department of Criminal Justice. With respect to demographic traits, releasees who were young when released, who were black, male, and single, who had little formal education, who were raised by people other than their natural parents, and who had family members involved in crime were more likely to recidivate than their demographic counterparts. Furthermore, the younger they were at first arrest, conviction, and incarceration, the more likely they were to recidivate (Eisenberg 1991).

In sum, the research shows a fair amount of support for the hypotheses that adult academic and vocational correctional education programs lead to fewer disciplinary violations during incarceration, reductions in recidivism, to increases in employment opportunities, and to increases in participation in education upon release. Future research, however, must employ more precise controls for extraneous variables that may have an independent effect on the various outcomes. Without adequate control techniques, it is difficult to speak definitively about the impact of correctional education programs. In addition, future research should focus on questions not addressed or answered in the literature. This research primarily should analyze the relationships between precollege and college education and disciplinary problems during incarceration, between college education and postrelease employment and education, and between vocational education and postrelease participation in education.

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## Appendix. Publications Not Discussed in This Review

Many other studies of correctional education have been published in addition to those discussed in this review. We selected our studies on the basis of substantive topic, focusing on adult academic and vocational correctional education, and disregarded research on juveniles and on correctional interventions such as drug treatment programs. We also chose our studies on the basis of methodological considerations. In general we did not discuss studies that were not the result of empirical research, and we were likely to discount research that did not use control groups.

We reviewed the following list of publications but did not discuss them for one or more of the reasons cited above:

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